ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	Knauf Ceiling Solutions GmbH & Co. KG
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-KNA-20210253-IBD1-EN
Issue date	05/11/2021
Valid to	04/11/2026

Knauf Ceiling Solutions Suspension System & Accessories

Knauf Ceiling Solutions GmbH & Co. KG

Institut Bauen und Umwelt e.V.

ECO PLATFORM EPD EN 15804 VERIFIED

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1. General Information

Knauf Ceiling Solutions GmbH & Co. KG

Programme holder
IBU – Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Declaration number
EPD-KNA-20210253-IBD1-EN

This declaration is based on the product category rules:
Metal ceilings, 01.2019
(PCR checked and approved by the SVR)

Issue date
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Valid to
04/11/2026

Dipl. Ing. Hans Peters
(chairman of Institut Bauen und Umwelt e.V.)

Dr. Alexander Röder
(Managing Director Institut Bauen und Umwelt e.V.))

Knauf Ceiling Solutions Suspension System & Accessories

Owner of the declaration
Knauf Ceiling Solutions GmbH & Co. KG
Elsenthal 15
94481 Grafenau
Germany

Declared product / declared unit
1 linear metre (lm) grids with an average weight of 0.266 kg/lm produced by Knauf Ceiling Solutions.

Scope:
This document refers to 1 linear metre (lm) grids as a group average with a declared weight of 0.266 kg/lm produced by Knauf Ceiling Solutions. The grids are manufactured at the organisation's production sites in:
- Dreux (France)
- Valenciennes (France)
- Grafenau (Germany)

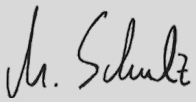
The product spectrum offers a high variety and flexibility including various heights, widths and module lengths. The declared unit was calculated based on the average weight of the products of each analysed site and weighted according to the production quantity of each site. The conversion of the average product to other specifications than the declared reference is proportional to the product's weight.

The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of *EN 15804+A2*. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard *EN 15804* serves as the core PCR
Independent verification of the declaration and data according to *ISO 14025:2010*
☐ internally ☒ externally



Matthias Schulz
(Independent verifier)

2. Product

2.1 Product description/Product definition

Industrially manufactured metal ceiling systems acc. to *EN13964* made of edged or rolled metal sheets as comprehensive construction kits or individual components.
A suspended ceiling system usually consists of main runners, long and short cross tees, perimeters and other accessories.

This EPD applies to the following products:

DONN DX24, DONN DX3- 24, DONN DX15, DONN DX24 KB, DONN DX35, DONN Espace, DONN DP Bandraster, DONN Perimeters.

Prelude 24, Prelude 24 Sixty², Prelude 15, Prelude 35, Prelude 24 CR, System Z, Prelude 24 NT+, Prelude 24 System S+, Javelin 24, Q-line T24, Prelude Perimeters.

VENTATEC Performance T24, VENTATEC Performance T24 HIGH, VENTATEC Performance T15 HIGH, VENTATEC Perimeters.

Meridian, Rapid'Fix, VIC, Concealed grid, Accessories.

For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) *Regulation (EU) No. 305/2011* (CPR) applies. The product needs a declaration of performance taking into consideration *EN 13964:2014, suspended ceiling requirements and test methods* and the CE-marking. For the application and use the respective national provisions apply.

2.2 Application

Grids and Perimeters are typically used as substructure of suspended ceilings. Their primary function is to hold the ceiling tiles under normal conditions of use and also for special requirements e.g. fire resistance.
A suspended ceiling system usually consists of main runners, long and short cross tees and perimeters.

2.3 Technical Data

Suspension Systems are regulated by *EN 13964* and have corresponding labelling and declaration of performance. The following data provide an overview of results:

Constructional data

Name	Value	Unit
Durability class (EN 13964)	up to Class D	-

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 13964:2014, suspended ceiling requirements and test methods* (not part of CE-marking).

2.4 Delivery status

The EPD refers to grids and perimeters with a steel thickness from 0.25 - 0.7 mm (nominal) and a variable length up to 6 m.

2.5 Base materials/Ancillary materials

The grids are made out of galvanised sheet steel in combination with a capping made out of coated sheet steel or aluminium.

This product/article/at least one partial article contains substances listed in the *candidate list* (date: 25.06.2020) exceeding 0.1 percentage by mass: no.

This product/article/at least one partial article contains other carcinogenic, mutagenic and reprotoxic (CMR) substances in categories 1A or 1B which are not on the *candidate list*, exceeding 0.1 percentage by mass: no.

Biocide products were added to this construction product or it has been treated with biocide products (this then concerns a treated product as defined by the (EU) *Ordinance on Biocide Products* No. 528/2012): no.

2.6 Manufacture

The grids and perimeters are produced using roll forming machines. In the roll forming process, a flat sheet metal profile is transformed into a special profile with a complex geometry by incrementally bending the flat profile through a series of contoured and profiled rolls. The sheet metal is usually coil-fed, but can also be from a blank. Coil-fed roll forming equipment produces complex profiles whose cross-sections can be consistently produced, allowing very tight tolerances, high-quality finishes and parts with very long lengths.

2.7 Environment and health during manufacturing

The manufacturer complies with the special German and European regulations:

- All three manufacturing plants Dreux, Grafenau and Valenciennes are *ISO 9001* and *ISO 14001* certified.
- Any waste generated is recycled
- Not subject to declaration according to REACH.

2.8 Product processing/Installation

There are no recognised systemic hazards associated with the installation of a suspended ceiling substructure. The use of suitable tools (e.g. plate shears or cut-off grinders) for cutting the profiles must be ensured.

2.9 Packaging

The profiles are packed into cardboard boxes and stacked on pallets. Cardboard, paper and wood can be recycled in the usual ways.

2.10 Condition of use

When handled properly, the mechanical and structural-physical properties of the profiles remain intact throughout the entire service life.

2.11 Environment and health during use

A release of volatile organic compounds (VOC) or other substances from the profiles is not expected.

2.12 Reference service life

The service life of the profiles is up to 50 years, depending on the area of use, exposure and state of maintenance.
Within the framework of the conditions of use, no ageing effects are to be expected.

2.13 Extraordinary effects

Fire

The declared products are classified in the fire reaction class A1 or A2-s1, d0 according to *EN 13501-1*. This means that they are "non-combustible" according to the German building authority designation (and also many other European countries) with negligible smoke development and no burning drip in the event of fire.

Fire protection

Name	Value
Building material class	A2 / A1
Smoke gas development	s1 / -
Burning droplets	d0 / -

Water
In the case of prolonged contact with water, rust may occur on the punch and cut edges of the galvanised profiles. If condensation is possible, the use of corrosion-resistant profiles is recommended.

Mechanical destruction
Mechanical destruction leads to deformation of the product and might lead to damages of the zinc layer.

2.14 Re-use phase
If the profiles are removed properly, they can be reinstalled.
Otherwise, all profiles can be recycled up to 100%.

2.15 Disposal
The waste code number of production residues for steel according to the *AVV, German List of Wastes Ordinance* is 17 04 07.

2.16 Further information
Further information at www.knaufceilingsolutions.com

3. LCA: Calculation rules

3.1 Declared Unit
This EPD refers to a declared unit of 1 linear metre (lm) grids with an average weight of 0.266 kg/lm produced by Knauf Ceiling Solutions. The grids consist of bent steel and two clips per grid (1.6 g per clip).

Declared unit

Name	Value	Unit
Declared unit	1	lm
Weight	0.266	kg/lm
Conversion factor to 1 kg	0.266	-

This study evaluates the environmental impact of grids manufactured by Knauf Ceiling Solutions as a group average.

Knauf grids are manufactured at the organisation's production sites in Dreux (France), Valenciennes (France) and Grafenau (Germany). The slitted coils processed at the three sites are sourced centrally from the company's site in Antwerp (Belgium), where the slitting of the steel coils takes place.

The product spectrum offers a high variety and flexibility including various heights, widths and module lengths. The declared unit was calculated based on the average weight of the products of each analysed site and weighted according to the production quantity of each site. Grids consist of various steel components. As a result, the conversion of the average product to other specifications than the declared reference is proportional to the product's weight.

3.2 System boundary
The life cycle assessment of average grid suspension systems and accessories includes a cradle-to-gate analysis of the products' potential environmental impacts with modules C1–C4 and module D (A1–A3, + C + D). Subsequent life cycle phases are part of the analysis:

Module A1–A3 | Production stage
The production stage includes the upstream burdens of raw material supply, their transports and the processing at the manufacturing plants located in Dreux (France), Valenciennes (France) and Grafenau (Germany). In addition, the slitting of the coils takes place in Antwerp (Belgium). Grids and perimeters are produced via roll forming and bending of slitted steel coils. Main raw material inputs therefore represent hot-dip galvanized steel coils. The production sites are supplied with electricity from the national power grids. In addition, the French sites use thermal energy from natural gas.

Module C1 | deconstruction and demolition
Disassembly of the product is done either manually or using smaller tools. Referring energy demand is considered to be negligible.

Module C2 | transport to disposal
The transport to the disposal of the material is estimated declaring a 50 km radius to the disposal. In reality, this scenario may vary depending on the actual location of deconstruction and referring waste treatment.

Module C3 | waste processing
Product flows that reach Module D for recycling reach the end-of-waste state in C3 and thus leave the product system. Environmental impacts resulting from the grinding and sorting of steel scrap are not included, as referring energy demand is considered to be negligible.

Module C4 | disposal
Module C4 refers to the emissions from the disposal of the losses from waste processing. The chosen scenario, therefore, includes the environmental burdens of landfilling of 5 % of the material.

Module D | benefits and loads beyond the system boundary
Module D declares the recycling of the recovered steel (95 % of the product). It includes the potential for substituting primary steel.

3.3 Estimates and assumptions
Assumptions and approximations are applied in case of a lack of representative data. All assumptions and approximations are documented precisely and represent a best-guess representation of reality. In case of uncertainty, a conservative approach is chosen.

3.4 Cut-off criteria
The LCA model covers all available input and output flows, which can be represented based on robust data. Data gaps are filled with conservative assumptions from average data (when available) or with generic data and are documented accordingly. Only data with a contribution lower than 1 % were cut off. Thus, no data were neglected, of which a substantial impact is to be expected. All relevant data were collected comprehensively. Cut-off material and energy flows were chosen carefully based on their expected quantitative contribution as well as potential environmental impacts. Thus, it can be assumed that the sum of all neglected input flows does not account

for more than 5 % of the total material, water and energy flows.

3.5 Background data

This study uses generic background data for the evaluation of upstream environmental impacts from *GaBi* databases (*GaBi* 10; 2021.2).

3.6 Data quality

Data collection is based on product-specific questionnaires. It follows an iterative process clarifying questions via e-mail, telephone calls or in personal/web meetings. Intensive discussions between Knauf Ceiling Solutions and Daxner & Merl results in an accurate mapping of product-related material and energy flows. This leads to a high quality of foreground data collected. Data collection relies on a consistent process according to *ISO 14044*.

The weighted average was calculated based on the average product of the three production sites Dreux, Valenciennes and Grafenau. Due to the similar material specification, its representativity is considered to be good.

The technological, geographical and time-related representativeness of the database was kept in mind when selecting background data. Whenever specific data were missing, either generic datasets or representative average data were used instead. The implemented *GaBi* background datasets refer to the latest versions available (not more than ten years old) and are carefully chosen.

3.7 Period under review

Foreground data were collected for the 2019 production year, and the data are based on the volumes produced on an annual basis.

3.8 Allocation

Background data for the supply chain of the hot-dip galvanized steel are published by worldsteel (*GaBi*-databases). Representing an average of the global steel industry, worldsteel background datasets ensure a good geographical and technological representation of steel production. All worldsteel datasets are modelled according to the worldsteel LCA methodology, applying the system expansion approach for the allocation of co-products from steel production. As a result, these datasets are not fully compliant with the requirements of the *EN 15804*, which emphasises the so-called partitioning approach applying a subdivision of environmental impacts according to their physical relationships. Due to a lack of global data calculated based on the partitioning approach, the worldsteel datasets refer to the closest representation of steel production in this context. Additionally, the deviation of the results of the two allocation approaches is to be expected under 5% according to Sphera. Scrap input is regarded as burden-free.

All information for the allocation of given material and energy flows is based on the controlling systems of the three production sites. Annual input quantities are only available for the overall production site. The calculation of the product-related input quantity is based on annual scrap rates. Energy and other auxiliaries are allocated based on the linear meters produced.

3.9 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account.

The *GaBi* background database was used to calculate the LCA (*GaBi* 10; 2021.2).

4. LCA: Scenarios and additional technical information

Characteristic product properties
Information on biogenic Carbon

The declared products do not contain any biogenic carbon.

Information on describing the biogenic Carbon Content at factory gate

Name	Value	Unit
Biogenic Carbon Content in accompanying packaging (pallet)	0.003	kg C
Biogenic Carbon Content in accompanying packaging (cardboard)	0.002	kg C

End of life (C1-C4)

Name	Value	Unit
Collected separately (steel)	0.266	kg
Recycling 95%	0.253	kg
Landfilling 5%	0.013	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information

Name	Value	Unit
Net flow of steel scrap	0.256	kg/lm

5. LCA: Results

The following table contains the LCA results for a declared unit of 1 linear metre (lm) grids with an average weight of 0.266 kg/lm produced by Knauf Ceiling Solutions.

Disclaimer:
EP-freshwater: This indicator has been calculated as “kg P eq” as required in the characterization model (EUTREND model, Struijs et al., 2009b, as implemented in ReCiPe; http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml).

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; ND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	ND	ND	ND	ND	MNR	MNR	MNR	ND	ND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 lm grids (0.266 kg/lm)

Core Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Global warming potential - total	[kg CO_2-Eq.]	7.94E-1	0.00E+0	8.04E-4	0.00E+0	6.44E-4	-4.36E-1
Global warming potential - fossil fuels	[kg CO_2-Eq.]	8.11E-1	0.00E+0	7.99E-4	0.00E+0	6.50E-4	-4.35E-1
Global warming potential - biogenic	[kg CO_2-Eq.]	-1.73E-2	0.00E+0	-9.47E-7	0.00E+0	-6.65E-6	-2.48E-4
GWP from land use and land use change	[kg CO_2-Eq.]	2.78E-4	0.00E+0	6.50E-6	0.00E+0	6.50E-7	-9.52E-6
Depletion potential of the stratospheric ozone layer	[kg CFC11-Eq.]	1.13E-13	0.00E+0	1.57E-19	0.00E+0	1.53E-18	-1.04E-15
Acidification potential, accumulated exceedance	[mol H^+-Eq.]	2.82E-3	0.00E+0	2.64E-6	0.00E+0	2.07E-6	-7.74E-4
Eutrophication, fraction of nutrients reaching freshwater end compartment	[kg P-Eq.]	6.56E-7	0.00E+0	2.36E-9	0.00E+0	4.94E-10	-9.46E-8
Eutrophication, fraction of nutrients reaching marine end compartment	[kg N-Eq.]	6.45E-4	0.00E+0	1.21E-6	0.00E+0	5.14E-7	-1.49E-4
Eutrophication, accumulated exceedance	[mol N-Eq.]	6.79E-3	0.00E+0	1.35E-5	0.00E+0	5.63E-6	-1.51E-3
Formation potential of tropospheric ozone photochemical oxidants	[kg NMVOC-Eq.]	2.08E-3	0.00E+0	2.38E-6	0.00E+0	1.62E-6	-6.68E-4
Abiotic depletion potential for non-fossil resources	[kg Sb-Eq.]	3.45E-6	0.00E+0	7.05E-11	0.00E+0	4.48E-11	-1.08E-6
Abiotic depletion potential for fossil resources	[MJ]	9.23E+0	0.00E+0	1.06E-2	0.00E+0	9.46E-3	-4.26E+0
Water (user) deprivation potential, deprivation-weighted water consumption (WDP)	[m^3 world-Eq deprived]	1.47E+1	0.00E+0	7.38E-6	0.00E+0	-7.70E-6	-1.19E+0

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 lm grids (0.266 kg/lm)

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Renewable primary energy as energy carrier	[MJ]	5.96E-1	0.00E+0	6.10E-4	0.00E+0	6.83E-4	2.68E-1
Renewable primary energy resources as material utilization	[MJ]	1.19E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Total use of renewable primary energy resources	[MJ]	5.97E-1	0.00E+0	6.10E-4	0.00E+0	6.83E-4	2.68E-1
Non-renewable primary energy as energy carrier	[MJ]	9.23E+0	0.00E+0	1.06E-2	0.00E+0	9.46E-3	-4.26E+0
Non-renewable primary energy as material utilization	[MJ]	5.11E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Total use of non-renewable primary energy resources	[MJ]	9.24E+0	0.00E+0	1.06E-2	0.00E+0	9.46E-3	-4.26E+0
Use of secondary material	[kg]	1.28E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.56E-1
Use of renewable secondary fuels	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Use of non-renewable secondary fuels	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Use of net fresh water	[m^3]	3.43E-1	0.00E+0	6.98E-7	0.00E+0	9.77E-8	-2.77E-2

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 lm grids (0.266 kg/lm)

Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Hazardous waste disposed	[kg]	6.56E-9	0.00E+0	5.60E-13	0.00E+0	1.68E-12	9.31E-10
Non-hazardous waste disposed	[kg]	2.15E-2	0.00E+0	1.67E-6	0.00E+0	1.33E-2	5.43E-2
Radioactive waste disposed	[kg]	4.00E-5	0.00E+0	1.93E-8	0.00E+0	1.08E-7	4.62E-7
Components for re-use	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Materials for recycling	[kg]	0.00E+0	0.00E+0	0.00E+0	2.53E-1	0.00E+0	0.00E+0
Materials for energy recovery	[kg]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Exported electrical energy	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
Exported thermal energy	[MJ]	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 lm grids (0.266 kg/lm)

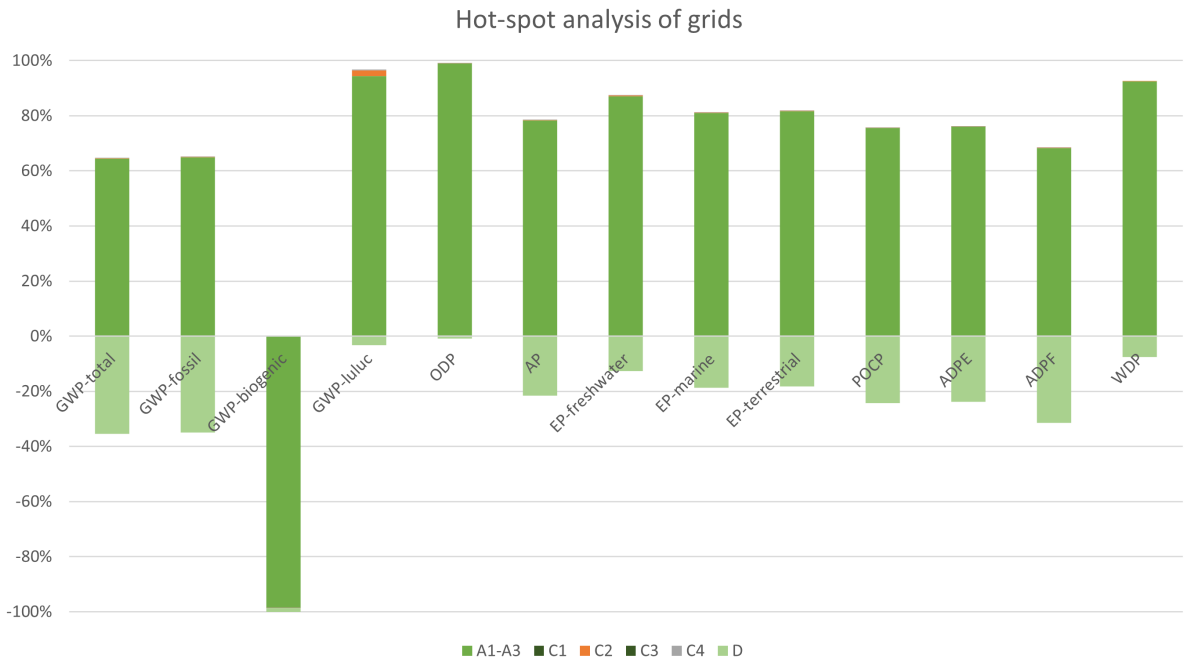
Indicator	Unit	A1-A3	C1	C2	C3	C4	D
Potential incidence of disease due to PM emissions	[Disease Incidence]	4.58E-8	0.00E+0	1.50E-11	0.00E+0	2.24E-11	-1.47E-8
Potential Human exposure efficiency relative to U235	[kBq U235-Eq.]	1.34E-2	0.00E+0	2.82E-6	0.00E+0	1.55E-5	8.03E-3
Potential comparative toxic unit for ecosystems	[CTUe]	1.74E+0	0.00E+0	7.86E-3	0.00E+0	2.78E-3	-2.75E-1
Potential comparative toxic unit for humans - cancerogenic	[CTUh]	5.44E-10	0.00E+0	1.59E-13	0.00E+0	3.23E-13	-2.36E-10
Potential comparative toxic unit for humans - not cancerogenic	[CTUh]	1.11E-8	0.00E+0	9.34E-12	0.00E+0	3.25E-11	-5.25E-9
Potential soil quality index	[-]	3.70E+0	0.00E+0	3.64E-3	0.00E+0	6.96E-4	6.38E-2

Disclaimer 1 – for the indicator “potential Human exposure efficiency relative to U235“.
This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators: “abiotic depletion potential for fossil resources”, “abiotic depletion potential for non-fossil resources”, “water (user) deprivation potential”, “deprivation-weighted water consumption”, “potential comparative toxic unit for ecosystems”, “potential comparative toxic unit for humans - cancer effects”, “potential comparative toxic unit for humans – non-cancer effects”, “potential soil quality index”.
The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

6. LCA: Interpretation

The following interpretation contains a summary of the LCA results referenced to a declared unit of 1 linear metre (lm) grids.



The comparison of the products’ life cycle phases shows a clear dominance of the production phase (modules A1-A3). Environmental potentials in module D refer to the recycling potential of primary steel.

When it comes to the environmental impacts in the production phase of the grids, the production of the hot-dip galvanized steel coils represents the major hot-spot in all of the impact categories considered except for potential ozone depletion.

The deviation of the site-specific results from the declared weighted average arrives at max. ± 20%.

The conversion of the LCA results to specific products shows a linear correlation with the product weight.

7. Requisite evidence

7.1 VOC emissions

Not applicable as relevant clause for suspended ceiling substructure components according to *EN 13964*.

8. References

Standards

EN 13501-1
DIN EN 13501-1:2019, Classification of construction products and building elements according to their reaction to fire, Part 1: Classification with the results of tests on the reaction to fire of construction products.

EN 13964
EN 13964:2014, suspended ceiling requirements and test methods.

EN 15804
DIN EN 15804:2020-03, Sustainability of construction works - Environmental Product Declarations - Core rules for the product category of construction products. German version EN 15804:2012+A2:2019.

ISO 9001
DIN EN ISO 9001:2015-11, Quality management systems - Requirements.

ISO 14001
DIN EN ISO 14001:2015-11, Environmental management systems - Requirements with guidance for use.

ISO 14025
DIN EN ISO 14025:2011-10, Environmental labels and declarations - Type III environmental declarations - Principles and procedures.

ISO 14044
DIN EN ISO 14044:2006-10, Environmental management - Life cycle assessment - Requirements and guidelines.

Further References

AVV, German List of Wastes Ordinance
Regulation on the European Waste List.

Candidate list
List of substances of very high concern (SVHC) for authorisation (ECHA Candidate List), 25.06.2020, published under Article 59(10) of REACH. Helsinki: European Chemicals Agency.

GaBi
GaBi 10, 2021.2. Software-System and Database for Life Cycle Engineering. Stuttgart, Echterdingen: Sphera, 1992-2021. Available at: http://documentation.gabi-software.com.

IBU 2021
Institut Bauen und Umwelt e.V.: General Programme Instructions for the Preparation of EPDs at the Institut Bauen und Umwelt e.V., Version 2.0 Institut Bauen und Umwelt e.V., 2021.
www.ibu-epd.com

Ordinance on Biocide Products
Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products.

PCR Part A
Institut Bauen und Umwelt e.V. (IBU), 2021. Product Category Rules for Building-Related Products and Services. Part A: Calculation Rules for the Life Cycle Assessment and Requirements on the Project Report according to EN 15804+A2:2019. Version 1.1.1, 15.04.2021.

PCR: Metal ceilings
Institut Bauen und Umwelt e.V. (IBU), 2019. Product Category Rules for Building-Related Products and Services. Part B: Requirements on the EPD for Metal ceilings. Version 1.7., 08.01.2019.

Regulation (EU) No 305/2011
Regulation (EU) No 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC.

Publisher
Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Tel +49 (0)30 3087748- 0
Fax +49 (0)30 3087748- 29
Mail info@ibu-epd.com
Web **www.ibu-epd.com**

Programme holder
Institut Bauen und Umwelt e.V.
Panoramastr 1
10178 Berlin
Germany

Tel +49 (0)30 - 3087748- 0
Fax +49 (0)30 – 3087748 - 29
Mail info@ibu-epd.com
Web **www.ibu-epd.com**

Author of the Life Cycle Assessment
Daxner & Merl GmbH
Lindengasse 39/8
1070 Wien
Austria

Tel +43 676 849477826
Fax +43 42652904
Mail office@daxner-merl.com
Web **www.daxner-merl.com**

Owner of the Declaration
Knauf Ceiling Solutions GmbH & Co. KG
Elsenthal 15
94481 Grafenau
Germany

Tel 0049 8552 422 0
Fax 0049 8552 422 30
Mail info@knaufamf.com
Web **https://www.knaufceilingsolutions.com**